ANNUAL RISE OF COLUMBIA RIVER.

[From report of Mr. R. C. Mize, meteorologist, Portland, Oreg.]

At the close of March the following forecast was made: "With normal temperature prevailing during the remainder of the spring, the maximum stage of water at Portland during the annual rise of the Columbia should be about 20 feet."

Temperature averaged slightly above normal during April and May, permitting ample run-off during those months and causing a very moderate flood, with a crest stage at Portland of 19.8 feet on June 16, or 0.5 foot below the 46-year average, and only 0.2 foot below the stage forecast in March.

Reports from 197 interested parties showed losses of $46,739 and saving of property by warnings of $76,020. The largest single item of loss was due to suspension of business. Losses of prospective crops amounted to $8,088. All dikes held.

There was the usual number of destructive overflows of small streams, due to local torrential rains, and a great amount of damage was done to roads, bridges, crops, etc. The most severe of these floods occurred on July 15 and 16 in eastern Colorado and in central, eastern, and northeastern Wyoming from July 22 to 27, inclusive. Losses in Colorado were unreported, but those in Wyoming, according to estimates obtained by Mr. George W. Pitman, meteorologist in charge of the Weather Bureau office at Cheyenne, Wyo., were about $775,000, of which $300,000 was in land and growing crops and as much to railroads. Other severe local floods occurred on July 8 in Bristol, Tenn., and Bristol, Va., and adjacent sections, and on July 30 in the Patapsco Valley of Maryland, Pennsylvania generally, and southeastern Virginia. The damage done amounted to perhaps $1,000,000, of which more than one-half was in Maryland and about one-fourth in Virginia.

The Patapsco River flood was the greatest since the flood of July 24, 1868, when the river at Ellicott City, Md., rose 5 feet in 10 minutes. Thirty-five persons were drowned, and the losses amounted to about $1,000,000.

WATER LEVEL OF GREAT SALT LAKE, UTAH.

After having reached its highest level since 1889, the waters of Great Salt Lake began to fall during July. During the month of June the peak stage of 8 feet above the zero of the gage prevailed, but by July 15 the water had risen to 7.6 feet, with a further slow decline indicated.

Flood stages during July, 1923.

River.	Station.	Flood stage.	Above flood stages—dates.		Crest.	
			From—	To—	Stage.	Date.
EAST GULF DRAINAGE.		*Feet.*			*Feet.*	
West Pearl	Pearl River, La.	13	25	28	14.2	26
MISSISSIPPI DRAINAGE.						
Arkansas	Pueblo, Colo.	10	12	12	11.4	12
Neosho	Neosho Rapids, Kans.	22	6	6	23.3	6
Yazoo	Yazoo City, Miss.	25	(1)	4	25.8	1
Missouri	Waverly, Mo.	23	7	8	23.3	7
Grand	Chillicothe, Mo.	18	6	6	18.4	6
Do.	Brunswick, Mo.	10	(1)	10	12.7	7
COLORADO DRAINAGE.						
Colorado	Lees Ferry, Ariz.	12	(1)	17	13.9	1
Do.	Parker, Ariz.	7	(1)	(2)	9.2	16
COLUMBIA BASIN DRAINAGE.						
Columbia	Marcus, Wash.	24	(1)	17	28.1	1
Do.	Vancouver, Wash.	15	(1)	12	18.8	1
Willamette	Portland, Oreg.	15	(1)	11	18.0	1

[1] Continued from June. [2] Continued into August.

MEAN LAKE LEVELS DURING JULY, 1923.

By UNITED STATES LAKE SURVEY.

[Detroit, Mich., Aug. 4, 1923.]

The following data are reported in the "Notice to Mariners" of the above date:

Data.	Lakes.[1]			
	Superior.	Michigan and Huron.	Erie.	Ontario.
Mean level during July, 1923:	*Feet.*	*Feet.*	*Feet.*	*Feet.*
Above mean sea level at New York	601.87	579.89	572.04	245.80
Above or below—				
Mean stage of June, 1923	+0.20	+0.03	+0.02	−0.13
Mean stage of July, 1922	−0.57	−0.79	−0.70	−1.12
Average stage for July, last 10 years	−0.77	−1.16	−0.93	−1.07
Highest recorded July stage	−1.95	−3.69	−2.37	−2.92
Lowest recorded July stage	+0.39	−0.01	+0.58	+1.21
Average relation of the July level to—				
June level		+0.10	0.00	0.00
August level		+0.10	+0.20	+0.30

[1] Lake St. Clair level: In July, 574.37 feet.

EFFECT OF WEATHER ON CROPS AND FARMING OPERATIONS, JULY, 1923.

By J. B. KINCER, Meteorologist.

Exceptionally favorable weather prevailed for harvesting winter wheat during the first 10 days of July throughout the interior of the country, except for some interruption by rain in the upper Ohio Valley States. Warm weather in the spring wheat region, however, was rather unfavorable for that crop, but was favorable for corn in most of the principal producing areas. Beneficial rains fell during this period in the middle Atlantic coast area, and there was less rainfall in much of the Southeast, which was of benefit to staple crops.

Cotton made fair to very good progress in the central and eastern portions of the belt, though it was becoming too dry in some western cotton-growing districts. Exceptionally favorable weather continued in the more northwestern States where further substantial rains were received.

The second decade of the month had mostly favorable weather for agricultural interests in much the greater part of the country. Copious rains about the middle of the month largely relieved droughty conditions in the Northeastern States, while increased moisture benefited vegetation in the middle Atlantic area, though many localities continued too dry, particularly in Pennsylvania.

Threshing progressed in the southern portion of the Winter Wheat Belt with no material interruption, except in parts of Kansas where there was some delay by rain and some damage to wheat in shock. During this period excellent weather for the rapid growth of corn was the rule, except where it was too dry in the southern Great Plains. It was too warm, however, for the best development of spring wheat, but cotton showed general improvement in much of the belt, though that planted late needed rain rather badly in some western localities. The best showers of the season, so far, occurred in the grazing area of the far Southwest where long drought had prevailed, although the range continued too dry in some sections.

By the latter part of the month the drought had been intensified by continued absence of rain from central Kansas southward, and most crops showed deterioration, especially corn. Rain was badly needed also in parts of Iowa, Illinois, Kentucky, and Arkansas, but much-needed